Preliminary Report Form for New Small Production Wells for Community Water Systems April 2004*

PROJECT NAME:_____

TOWN/CITY: _____**DATE:**_____

EPA ID #: _____

PURPOSE: This form, when complete, will provide the information required for small well siting preliminary reports under Env-Ws 378, *Site Selection of Small Production Wells for Community Water Systems.* Once completed, this form can be submitted as the preliminary report. You don't have to use this form. However, based on experience, the Department has found that use of the form speeds the siting process. If you prefer to produce an original report, remember to provide all the information required under the rules and the Department recommends that you use this form as a checklist to help ensure your report is complete. Helpful information and reminders are provided throughout the form and are printed in *italics.* Copies of this form and other useful publications may be found at the following website: http://www.des.nh.gov/DWSPP/newcomm.htm.

INSTRUCTIONS:

A. Obtain copies of the following well siting materials from the Department's Public Information Center (603) 271-2975. Additional copies of this reporting form are also available. These materials will help you complete this form:

1. Administrative Rule, Env-Ws 378, *Site Selection of Small Production Wells for Community Water Systems, April 1999.*
2. The well siting guide, *The Applicant's Toolkit for Siting New Small Community Wells in New Hampshire, February 2004.*
3. Administrative Rule, Env-Ws 372, *Small System Design Criteria, June 1997.* (Small community water systems are subject to design criteria under Env-Ws 372. This document assists you in making sure the new well project will meet those criteria.)
4. The pumping test guide, *A Field Guide for Pumping Test Operators.*

B. Contact Johnna McKenna at (603) 271-7017 to request a GIS Map and Inventory of known and potential contamination sources and water supplies for your site. She will need a location map of your site and this may be faxed to her attention at (603) 271-0656. When you receive the map and inventory contact Department staff at 271-2919 to schedule a file review. Only known contamination sites need be reviewed. File information is required for section 3.4 of this form. For further instructions on conducting a file review, refer to the guidance document.

C. Review the well siting rules and guidance materials obtained above. You should use these materials to assess your water system design and site specific well siting needs.

D. Complete the form by answering all questions and providing appropriate attachments. Answer the questions from top to bottom, unless instructed to skip to another section. Helpful information and reminders are provided throughout the form and are printed in *italics.*

E. It is very important to recognize that an incomplete form, like an incomplete preliminary report, **will be returned** for completion before being reviewed by the Department. The Department reviews submissions in the order they are received. So, an incomplete form delays the review process until a completed submission is received.

F. Before submitting, review the form to ensure all questions are answered and all attachments are included. When complete submit to:

New Community Well Sitings
Water Supply Engineering Bureau
Post Office Box 95
Concord, NH 03302 -0095

For help with this form or other community well siting concerns call Diana Morgan at (603) 271-2947.

*Information contained in this form is current as of March 2004. Statutory or regulatory changes that may occur after March 2004 may cause part or all of the information to be invalid. If there are any questions concerning the status of the information please contact DES at (603) 271-2947.

Section 1.0 GENERAL INFORMATION

(This Section asks you to identify the people and companies responsible for the well siting and water system and to describe the well site. This information will help ensure clear communication about the well siting.)

1.1 Project Contacts

1.1a Project Contact: *(Person completing this form?)*

Name:_____

Address:_____

Company:_____

Phone Number:_____

1.1b Project Owner: *(Who is responsible for compliance with approval conditions issued by the Department?)*

Name:_____

Address:_____

Company:_____

Phone Number:_____

1.1c Is this the current owner of the water system?
YES___ NO___

If **YES**, got to (1.2) below.
If NO, identify the current water system owner;

Current Owner:_____

Address_____

Phone_____

1.1d. Describe why this project is not currently owned by the water system.

_____

_____

1.2 Site Location Maps and Sketch

1.2a. Site Map: *(Show the well location on a US Geological Survey (USGS) map, scaled to 1:24,000 or 1:25,000. These maps are available in most sporting goods stores.)*

Name and Date of USGS Map_____

1.2b. Tax Map: *(Show the well location on the town's tax maps and identify the map and lot numbers.)*

Town tax map and lot number: _____

1.2c. Location Description: (*Describe the location of each well in reference to a fixed point such as a pump station. For example, Well # 1 is 150 feet SW of the pumphouse.)*

_____

1.2d. Site Sketch: Provide a sketch with a scale of 1"=50' or larger, showing the well location and **everything** within at least 500 feet of the new well. Incorporate historic, existing and proposed land uses, including; *(Including contours will help the reviewer determine topography and direction of overland flow.)*

- livestock areas
- foot paths
- homes
- sand/soil/wood piles
- mowed areas
- recreational areas
- pump houses
- septic systems
- surface waters
- gravel roads
- driveways
- farm animals
- roads (and ROW)
- farm fields
- ball fields
- wetlands
- easement areas
- landscaped areas
- protected lands
- parking
- buildings/sheds
- other wells
- flood plain
- fuel tanks
- fences
- trails
- dumpsters
- storage
- salt piles

Please Note: Sections 3.2b2, 3.3b, 3.3c, 3.4a, and 4.2c require additional information that should be included into this sketch.

Section 2.0 SOURCE WATER REQUIREMENTS

(This information is needed to help ensure the well siting work will meet the intended purpose and the pumping test is designed appropriately.)

2.1 Water System

Is this a new water system? YES___ NO___ (If **YES**, go to Section 2.2)

Is this an existing water system? YES___ NO___ (If **YES**, go to Section 2.3)

2.2 Proposed New Water Systems

2.2a. Has Conceptual Approval been obtained from the Department?
YES___ NO___

If **YES**, go to (2.2b) below
If **NO**, contact WSEB at 271-2513 and obtain concept approval before submitting this form.

2.2b. Source Capacity Requirements:

2.2b.1 What is the total source capacity required for the system under Env-Ws 372.11?
(Please note that Env-Ws 372.9(e) requires irrigation be included in source capacity estimates. Use Worksheet A to ensure your calculations are complete and explain how those calculations were developed. Note that source capacity does not equal design flow.)

_____ gpd.

2.2b.2 How will source capacity requirements be met? Complete Table 2-1.
(How many wells are planned, are they bedrock or overburden and what yields are anticipated for each well? Source capacity equals the sum of the permitted production volume of all wells. Permitted production volume of a new well is the maximum amount that can be withdrawn over any 24-hour period.)

Table 2-1, PROPOSED WELLS

Well Name and Location	Bedrock or Overburden	Proposed Use Pumping Rate (gpm)	Proposed Use Estimated Permitted Production Volume (gal)

2.2b.3. Describe how the wells will be operated to meet the Env-Ws 372 source capacity requirements? *(For example, simultaneous, lead-lag, or main and back-up.)*

_____

*(If you have a **NEW** water system and have answered all the questions in Section 2.2 above, **Go To Section 3.0,** otherwise continue to Section 2.3.)*

2.3 Existing Water System

2.3a. Description of Well Siting Project:

2.3a.1 Type of well siting project *(check one)*

____New well for a new water system *(Skip this section and go to Section 3.0.)*
____New well for an existing water system

2.3a.2 Type of New Well *(check one)*

____Installation of a new well(s)
____Reactivation of an inactive well(s)
____Increasing the approved maximum daily withdrawal or permitted production volume of existing well(s)
____Deepening or regaining lost capacity of an existing well(s)

2.3a.3 Type of Need *(Why does the system need a new well? Check all that apply.)*

____To obtain approval for an increase in users *(a system expansion)*
____To meet current demand or design requirements *(a system deficiency)*
____To meet unusual demands *(more than the standard flows)*
____To supplement declining yields of existing wells
____To replace an existing well that has substandard water quality

2.3a.4 Has the water system experienced any water shortages? Were water conservation measures implemented?
YES___ NO___

If **NO**, got to (2.3b.) below.

If **YES**, describe the events and measures taken, include dates:

_____

_____

2.3b. Describe the existing system:

How many wells does the system have (in and out of use)? _____
How many wells are being used now? _____
How many of the existing wells were constructed after July 1998? _____
Specify which wells were constructed after July 1998. _____
How many service connections does the system have? _____
What type(s) of use(s) does the system serve *(refer to Env-Ws 372.09 to identify use type)?*
_____

2.3c. What is the total source capacity required for the existing system under Env-Ws 372.11? *(Please use worksheet A to ensure calculations are complete and describe how those calculations were developed.)*

Total Source Capacity Required under Env-Ws 372 = _____ gpm

2.3d. Are more service connections proposed?
YES___ NO___

If **NO**, go to (2.3e.) below.

If **YES**, how many new connections? _____

2.3e. What is the total source capacity required for the system under Env-Ws 372 after the expansion?

Total Source Capacity Required for the expanded system = _____ gpm

2.3f. Number and Operation of Existing and Proposed Wells:

2.3f.1 Describe existing wells in Table 2-2 and provide well logs for each well. Document the maximum sustainable capacity of each well. This is the maximum rate, in gpm, at which the well can presently operate on a continuous, long-term basis, without running out of water. Include wells that will be improved to regain lost capacity by deepening, reactivation, increasing the pumping rate or by mechanical means such as hydrofracture. Attach extra sheets as needed.

Table 2-2, EXISTING WELLS *(Show well locations on the site sketch in Section 1.2d.)*

Well Name/EPA ID Number/ Date Installed	Current Use		Proposed Use	
	Pumping Rate (gpm)	Maximum Total Daily Withdrawal or Permitted Production Volume (gal)	Pumping Rate (gpm)	Maximum Total Daily Withdrawal or Permitted Production Volume (gal)

2.3f.2 Describe, in Table 2-3, how the maximum sustainable capacity was determined for each well. (*For example, water meter records, sanitary survey reports, driller's log, pumping test report, etc.)*

Table 2-3, CAPACITY

Well Name/Number	Description of How Maximum Sustainable Capacity was Determined

2.3f.3 Describe proposed wells in Table 2-4. • *(Show proposed well locations on the site sketch in Section 1.2d.)*

Table 2-4, PROPOSED WELLS *(Wells that don't exist now)*

Well Name and Location	Well Type: Bedrock or Overburden	Proposed Use	
		Maximum Pumping Rate (gpm)	Estimated Permitted Production Volume (gal)

2.3g. Meeting Source Capacity Requirements:

2.3g.1 Describe how the wells will be operated to meet the Env-Ws 372 source capacity requirements? *(For example, simultaneous, lead-lag, or main and back-up.)*

_____

2.3g.2 What will the system's total source capacity be once the existing wells are improved and the proposed wells are approved? *(Add the values in the far right columns of Tables 2-2 and 2-4.)*

System's Total Source Capacity = _____ gpm

Section 3.0 SOURCE WATER PROTECTION

(This information is needed to evaluate the appropriateness of the well site based on land uses.)

3.1 Land Uses in Immediate Area

3.1a. Historic Land Uses: Describe historic use(s) (*a 50-year history*) of the well site property within at least 500 feet of the new well. List sources of information.

_____

_____

3.1b. Existing Land Uses: Describe the existing land use(s) on the property within at least 500 feet of each new well.

_____

_____

3.1c. Proposed Land Uses: Describe proposed use(s) of the property within at least 500 feet of each new well. (*Include any activity listed in Section 1.2d, page 2.)*

_____

3.1d. Land Uses and Potential Sites: Based on land uses, describe why each well site was chosen over other possible sites. If there are other possible sites on the property explain, in general, why they weren't chosen. If there are none, say so.

_____

_____

3.1e. Tax Map/Site Sketch: Do all the land uses and possible sites described above appear on the site sketch in Section 1.2d?
YES____ NO____

If **YES**, go to Section 3.2.

If **NO**, return to the site sketch and add this information before going on to Section 3.2.

3.2 Surface Water and Floodplain

3.2a. Setback from floodplain: *(This information can be identified using the Federal Emergency Management, Flood Insurance Rate Maps (FIRM). See the Guidance booklet for information on obtaining FIRMs.)*

3.2a.1. Is the well site in a 100-year flood plain? YES___ NO___

If **YES**,
What is the flood elevation?_____

What is the elevation of the well site?_____

What will be the final wellhead elevation?_____

How were these elevations determined?_____

_____

If **NO**, *(If the well site is not in a 100-year floodplain)* then about how far is the well site

from the nearest floodplain?

_____Feet

3.2a.2 Attach copies of the relevant portions of the FIRMs and any engineering calculations or surveyed information used to identify floodplain locations, well and/or flood elevations.

3.2b. Setback from surface water:

How far away is the nearest surface water?_____ *(For example, streams, brooks, ponds, wetlands, drainage ditches, detention ponds, fire ponds or lakes. New wells must be located at least 50' from surface water.)*

Describe the nature of that surface water. Describe all other surface waters in the immediate areas. Include the distance from the well.

_____

_____

Make certain that the locations of all surface waters are shown accurately on the maps or sketches required in Section 1.2, page 2.

3.3 Sanitary Protective Area

3.3a. Sanitary Protective Area (SPA) Radius: What is the length of the sanitary protective area radius for each well? (Complete Table 3-1 for each new well.) (*The size of the sanitary protective area depends on the permitted production volume(s) [PPV] of the well(s). Match the PPV for each well to the sanitary protective area radius in the table below.* ***If more than one well is in one SPA, then the SPA radii for those wells will be based on the combined permitted production volume for those wells. Please note, each well must have a separate sanitary protective area****. The SPA for each well is a circle, centered on the well, with an appropriately identified radius.)*

SANITARY PROTECTIVE AREA RADII

Permitted Production Volume (gal)	Radius
less than 14,400	150 feet
14,401 to 28,800	175 feet
28,801 to 57,600	200 feet
57,601 to 86,400	250 feet
86,401 to 115,200	300 feet
115,201 to 144,000	350 feet
greater than 144,000	400 feet

Table 3-1, SANITARY PROTECTIVE AREA RADII

Well Name/Number	Proposed Permitted Production Volume	Radius

3.3b. Provide a site sketch of the sanitary protective area(s) showing the well location, SPA, and SPA radius for each well.

3.3c. Sanitary Protective Area Land Use Evaluation: Is all the land inside the sanitary protective area in a natural, untouched state and will it stay that way after build out of the project?
YES___ NO___

If **NO**, show **all** land uses, alterations, and activities (*See Section 1.2, page 2, for a listing of these types of activities.)* on the site sketch in Section 3.3b and provide a schedule for removal of all uses. *(If any land uses not required for operation and maintenance of the well cannot be removed, the system must obtain a waiver, see Worksheet B for a waiver application.)*

3.3d. Control of Sanitary Protective Area: Does the water system own the land in the sanitary protective areas?
YES___ NO___

If **YES**, identify the registered deed number(s), county name and date(s) of registration and provide tax maps.

Deed No. _____

County _____ Date _____

If **NO**, does the water system intend to gain control by purchasing the land or getting a land use easement?
YES___ NO___

If **NO**, the water system must obtain a waiver for those portions they will not own or control through easements. (*See Worksheet B for a waiver application.)*

If **YES**, attach a copy of the easement language to be used and describe when the easement will be obtained and registered. *(Easements must accompany the final report.)*

_____

3.3e. Transfer of Water System Ownership: Will ownership of the water system be transferred from its present ownership?
YES___ NO___

If **NO**, go to Section 3.4

If **YES**, **who** will be the new owner and **when** and **how** will control of the sanitary protective area be transferred with the system? *(Please note that control of the well's SPA must stay with the system/ be transferred simultaneously.)*

Name:_____

Address:_____

Phone Number:_____

When and how will control be transferred?_____

_____

3.4 Preliminary Wellhead Protection Area (WHPA)

3.4a. Draw the Preliminary Wellhead Protection Area on the site map in Section 1.2, page 2. *(The Preliminary Wellhead Protection Area or **WHPA** is a circle, centered on the well, with a 4000-foot radius.)*

3.4b. Collection of Information:

3.4b.1 Have you obtained from the Department a GIS map and inventory of the WHPA that is less than 90 days old?
YES _____ NO___

If **NO**, **do not complete any more of this form until you have an updated inventory and map**.

3.4b.2 Have you completed a windshield survey of the WHPA, including a review of municipal records?
YES___ NO___

If **NO**, see Department guidance on completing a windshield survey. **Do not complete any more of this form until you have completed a windshield survey**

If **YES**, complete and attach a copy of the windshield survey worksheet found in the Guidance booklet and at the end of this form (Worksheet C).

3.4c. Inventory Review: Using the information collected above (in 3.4b) answer the following;

3.4c.1 Are private wells located within 1,000-feet of the water system wells? *All developed lots not served by a public water system should be identified as having a private well*.
YES___ NO___

If **YES**, how many? _____ *(Show well locations on the site map in Section 1.2a,or on the tax map.)*

3.4c.2 Are public water supply wells located within the WHPA of the water system wells?
YES___ NO___

If **YES**, how many? _____

3.4c.3 Are other withdrawals located within the WHPA of the water system wells?
YES___ NO___

If **YES**, how many? _____

3.4c.4 Are there any potential contamination sources within the WHPA of the water system wells?
YES ___ NO___

If **YES**, how many? _____

3.4c.5 Are there any known contamination sources within the WHPA for the well?
YES___ NO___

If **YES**, how many? _____

If **NO**, go to Section 4.0, Pumping Test Proposal.

3.4c.6 Have Department files for known contamination sources been reviewed?
YES___ NO___

If **NO**, see Department Guidance booklet on conducting a file review. **Do not complete any more of this form until you have completed any necessary file review.**
If **YES**, attach the required file review information

File Review completed by:

_____

Date completed:_____

3.4c.7 Based on the file review findings is there a contaminated site that might affect the water quality of any of your wells.
YES___ NO___

If **YES**, propose work to evaluate the potential impact on your well(s). (*For example, pumping the well longer and taking more water quality samples and/or*

monitoring other wells during the pumping test.)

_____

If **NO** (*If there is a known source but you don't believe it can affect your well(s)),* then explain why the contamination is not a threat to your well(s).

_____

_____

Section 4.0 PUMPING TEST PROGRAM PROPOSAL

Department experience shows that often there are discrepancies between the pumping test proposal and what happens during the test. Sometimes this has meant the applicant has had to repeat their test. To **avoid repeating the test**, the Department asks that a **complete description** of the pumping test proposal be provided. *(See Env-Ws 378 and the siting guide,* Field Guide for Pumping Test Operators*, for a discussion of pumping test design and requirements.)*

4.1 Test Performer

Who is responsible for setting up, directing the pumping test and making decisions during the test? *(Such as making sure the test is conducted as approved, including preliminary report approval conditions from the Department, that the water is discharged in the approved location, that a constant pumping rate is maintained, that measurements are made correctly and on schedule, when to shut down the pump, etc.)*

Name:_____

Address:_____

Company:_____

Phone Number:_____

4.2 Operation of Wells

4.2a. Well Operation:

4.2a.1 How will the system's wells be operated during the testing, including new and existing ones? (Complete Table 4-1. *(Please note that all wells required to meet the source capacity requirements of the system must be pumped during the testing unless data is presented that clearly demonstrates the wells are not hydraulically connected. Also, the system must continue providing water from existing wells to the users.)*

Table 4-1, PROPOSED OPERATION OF SYSTEM WELLS

Well	Pumping Rate (gpm)	Operation Schedule

4.2a.2 How will constant pumping rates be maintained? Describe how the rates will be managed to offset hydraulic head changes. (*Pumping rates must be constant. They may not vary more than 5%.)*

_____

_____

4.2b. Temporary Connection: Will it be necessary to temporarily connect a new, unapproved, well to the water system during the pumping test?

YES___ NO___

If **NO**, go to (4.2c.) below.

If **YES**, describe why and identify who will be responsible for ensuring that the well and lines are flushed, levels of nitrate, nitrites and bacteria are acceptable, and Department approval is obtained **before** the well is employed to serve users.

Why?_____

Who?
Name:_____

Company:_____

4.2c. Where will the pumped water be discharged? (Complete Table 4-2 for each well and show the locations on the site sketch in Section 3.3b.) *(The discharge from all wells must be directed to locations that ensure the water will flow unrestricted away from all wells, will not produce artificial well recharge, and cannot affect aquifer hydraulics.)*

TABLE 4-2, PROPOSED DISCHARGE LOCATIONS

Well	Discharge Location	Distance from and Name/Number of Nearest Well

Explain why the discharge location for each well cannot affect aquifer hydraulics.

_____

_____

4.2d. How will pumping rates be measured*?* (Complete Table 4-3 for each well.) *(Please note: the standard equipment is a calibrated in-line cumulative flow meter; The standard method is to take two readings, one minute apart, and calculate the gallon per minute rate for that measurement. Rates must be calculated as often as water level measurements are taken, after the first 10 minutes of pumping.)*

Table 4-3, PUMPING RATE MEASUREMENTS

Well Name/ Number	Equipment	Method	Schedule

4.3 Water Level Measurement

4.3a. How and when will water levels be measured in each well during and after pumping? (Complete Table 4-4 for each well.) *(The standard equipment is a pressure transducer or electronic water level indicator. Water level measurements must be taken every 5 minutes for the first hour and at least once an hour thereafter)*

Table 4-4, WATER LEVEL MEASUREMENT

Well	Measurement Schedule	Equipment

4.3b. Static Water Levels. Can existing wells be shut down before the start of the pumping test to obtain static water levels? *(Before the test, static water levels must be measured. The static water level is the well under natural, non-pumping conditions. To get static water levels you need to shut down existing wells for as long as possible.)*
YES___ NO___

If **YES**, how long will wells be shut down and describe how water will be provided to the system during that period. (*During shut-down, water can be provided to the system from existing storage tanks.)*

_____

_____

If **NO**, describe why not and how static water levels will be determined.

_____

_____

4.4 Monitoring of Non-System Wells *(You need to provide an assessment of how the new wells will influence other wells within 1000'. You also need to gather data to identify the effect other wells have on the water levels in your wells and to correct your data for any effect.)*

Will pumping and water levels in non-system wells be monitored?
YES___ NO___

If **NO**, describe why not, and how the impact your new wells will have on other wells will be determined and how you will separate the effects of the other wells on water levels in the wells you are testing:

_____

_____

_____

_____

If **YES**, describe the monitoring plan for each well in Table 4-6. Please include where the pumped water will be discharged, such as back into the system, storage, etc.

Table 4-6, PROPOSED MONITORING OF NON-SYSTEM WELLS

Well	Discharge Measurement Method and Schedule	Water Level Measurement Method and Schedule

Section 5.0 SUSTAINABLE YIELD EVALUATIONS

Department experience shows that the evaluation of the well's yield under the rules (Env-Ws 378) and its impact on conducting the pumping test is often misunderstood. This has meant the applicant has had to repeat their test. To **avoid repeat testing**, the Department asks the applicant to provide a complete description, **in their own words**, of how the sustainable yield of the new well(s) will be determined. Stabilization during the pumping test and a 180-day extrapolation estimate of drawdown are two methods for determining sustainable yield. *(Refer to Env-Ws 378 and the guide,* Field Guide for Pumping Test Operators*)*

How will yield be identified for each well tested? *(*Describe what criteria will be used to determine when to end the test and how water level data will be used to identify the yield of each well in Table 5-1.)

Table 5-1, EVALUATION OF YIELD

Well	Description of Yield Evaluation to be Performed

Section 6.0 WATER QUALITY ANALYSIS (*All new wells must be analyzed for all parameters under the Safe Drinking Water Act (SDWA); These samples must be collected, while the wells are still pumping, but near the end of the pumping test. See Department guidance on SDWA Sampling and Reporting. Additional sampling may be needed to evaluate contamination sources, justify a waiver, or evaluate an existing water quality problem*.)

6.1 Sample Collection and Delivery

6.1a. Who is responsible for collecting water quality samples and delivering them to the laboratory?

Name: _____

6.1b.How will the sample be stored and transported to the laboratory? *(VOC's should be kept cold)*

_____

6.2 Analyses and Laboratory

6.2a. Sample Collection and Analyses: Provide well numbers or names, when the samples will be collected, and what parameters will be analyzed. (Complete the Table 6-1 for each well.)

Table 6-1, PROPOSED WATER QUALITY MONITORING

Well	When Sample Will be Collected	Parameters to be Analyzed

6.2b. What laboratory will analyze the samples and for which parameters? (Complete Table 6-2 for each laboratory.) *(The laboratory must have current certification in New Hampshire for doing the analyses using drinking water methods.)*

Table 6-2, PROPOSED LABORATORY

Laboratory	Certification Number	Analyses This Lab Will Perform

Section 7.0 REFINEMENT OF WELLHEAD PROTECTION AREA

(Refer to Env-Ws 378 and the siting guide, Guide to Siting Small Community Wells*, for a discussion of the standard method and reporting requirements.)*

Do you intend to use the default WHPA radii? *(Please note, small overburden wells require an analytical delineation method. This may affect how you propose your pumping test. Contact Department well siting staff for guidance.)* YES___ NO___

7.1 If **NO**, you need to provide a detailed proposal, including technical justification. Provide the proposal on separate sheets and include **All** of the following:

7.1a. Map showing estimated WHPA.

7.1b. Description and justification for analytical groundwater delineation method.

7.1c. Description of additional data collection activities, including the Pumping Test Program.

7.1d. Description and justification of how the data will be analyzed and reported.

7.2 If **YES,** identify the anticipated radii of the WHPAs. (Complete the Table 7-2 for each well.) *(The size of the WHPA will depend on the permitted production volume(s) of the well(s) and how they will be operated to meet source capacity requirements for the system.*)

Table 7-1, WELLHEAD PROTECTION AREA RADII

Permitted Production Volume (Gal)	Radius (Feet)
Zero to 7,200	1,300
7,201 to 14,400	1.500
14,401 to 28,800	2,050
28,801 to 43,200	2,850
43,201 to 57,599	3,600
57,600 and over	4,000

Table 7-2, WELLHEAD PROTECTION AREAS

Well Name/Number	Proposed Permitted Production Volume	WHPA Radius

Before submitting, thoroughly check this form to be sure all questions are answered, all information is provided and all necessary attachments are included. Incomplete submittals will be returned before being reviewed by the Department.

Preparer's Signature:_____

Date:_____

Note: Department approval should be obtained for any changes in the testing program described on this form. The Department will review this form to determine completeness of the pumping test and water quality sampling programs and appropriateness of the well site, based on what is known at the time of the submittal. The final well siting report required by Env-Ws 378 must clearly justify any deviation in what is presented in the preliminary report.

As a reminder, have you included the following?

1. Site map, tax map, and site sketch.
2. Flood Insurance Rate Map
3. Site sketch of SPA
4. GIS Map and inventory
5. Windshield survey worksheet
6. File review worksheet
7. Sketch of pumping test discharge location
8. Wellhead Protection Area map
9. Description of the analytical groundwater method, if used, and all attendant documentation.

Worksheet A: Calculation Sheet for Source Capacity Requirements

Step 1. Calculate Source Capacity Required for Residential Uses:

Identify:

a. Number of service connections: _____

b. Number of bedrooms per connection:_____

Calculate:

a. Design Flow: (_____) x (_____) x (150gpd/bdrm) = _____ **gpd**
No. Connections No. Bdrms/Connection

b. Source Capacity: (_____) x (_____) = _____ **gpd**
Design Flow Multiplier from 372.11 **Source Capacity**

Step 2. Calculate Source Capacity Required for all Non-Residential Uses: *(Include Irrigation in this calculation*)

Use #1. Type of Use: _____

Number of Units (i.e., bedrooms, seats, sites, etc.):_____

Calculate:

a. Design Flow: (_____) x (_____) = _____ **gpd**
No. Units Flow/Unit

b. Source Capacity: (_____) x (_____) = _____ **gpd (Use #1)**
Design Flow Multiplier from 372.11 **Source Capacity**

Use #2. Type of Use: _____

Number of Units (i.e., bedrooms, seats, sites, etc.):_____

Calculate:

a. Design Flow: (_____) x (_____) = _____ **gpd**
No. Units Flow/Unit

b. Source Capacity: (_____) x (_____) = _____ **gpd (Use #2)**
Design Flow Multiplier from 372.11 **Source Capacity**

Use #3. Type of Use:_____

Number of Units (i.e., bedrooms, seats, sites, etc.):_____

Calculate:

a. Design Flow: (_____) x (_____) = _____ **gpd**
No. Units Flow/Unit

b. Source Capacity: (_____) x (_____) = _____ **gpd (Use #3)**
Design Flow Multiplier from 372.11 **Source Capacity**

Step 3. Calculate Total Source Capacity Required for Water System:

(Total capacity is all residential and all non-residential uses)

.Add all Source Capacity calculated in Step 1 and Step 2 above:

(_____)+(_____)+(_____)+(_____) =_____ **gpd**
Residential Use#1 Use #2 Use #3 **Total System Source Capacity**

Worksheet B : Waiver Application

Project Name:_____Town/City:_____
Date: _____

Which section of the **rule** are you requesting be waived? Env-Ws 378._____. Specifically, the requirement that:
_____
_____
_____
_____

Explain what, specifically, needs to be waived at this well site. Provide diagrams where helpful.
_____
_____
_____
_____
_____

Describe what hardship would be caused if the rule were adhered to._____
_____
_____
_____
_____
_____

Explain the alternative solution in detail. Provide diagrams where helpful. _____
_____
_____
_____
_____
_____

Explain how the alternative is consistent with the intent of the rules and would have a just result.
_____
_____
_____
_____
_____

Explain how the alternative would adequately protect human health and the environment.
_____
_____
_____
_____
_____

Worksheet C

Worksheet for Reporting on Windshield Survey

Water System Name:_____

Date:_____

Table 1. Potential Contamination Sources Found

Business Name or Resident	Land Use	Address	Location Marked on Map?

Note: Make copies of this form if you identify more sites.

Table 2. Activities on the Department's GIS Inventory that are no longer PCSs

Business Name or Resident	Address	Old PCS Activity (from GIS Inventory)	New Non-PCS Activity (from windshield survey)

Table 3. Contact with Local Officials and Property Owners

(May not be necessary, if water supplier has long-term knowledge of local land uses and can provide appropriate information.)

Examples of Local Officials You Could Contact	Person Contacted & Date of Contact	Incident or Land Use Identified*	Address	Location Marked on Map?
Health Officer				
Fire Department				
Zoning Enforcement				
Town Clerk				
Tax Assessor				
Building Owner				

*Add sheets if needed to describe Incident or Land Use